

METHOD AND APPARATUS FOR REMOVING CLASS INITIALIZATION BARRIERS FROM SHARED COMPILED METHODS

ABSTRACT

The invention describes a method and apparatus to minimize the costs introduced in the native code of a method M in order to make it executable (concurrently or serially) by multiple tasks, wherein M's native code is produced by the dynamic compiler of a multitasking virtual machine. One embodiment of the present invention describes a mechanism that annotates the shared runtime representation of classes with information that identifies the particular event that triggered the initialization of these classes, and in particular, if that event is the execution of class initialization barrier from a method of another class. These annotations are then used during each dynamic compilation of a method M of a class C to determine when native code corresponding to a class initialization barrier needs to be generated in the task re-entrant native code produced by the dynamic compiler for M.